

Remarks/Arguments:

Claims 1-2 and 4-5 are pending and rejected in the application. Claim 1 has been amended. New claim 9 has been added. No new matter has been added.

On page 2, the Official Action rejects claims 1-2 and 4-5 under 35 U.S.C. § 103(a) as being unpatentable over Nakamura in view of Kim and further in view of Homma. It is respectfully submitted, however, that the claims are patentable over the art of record for at least the reasons set forth below.

Applicants' invention, as recited by claim 1, includes features which are neither disclosed nor suggested by the art of record, namely:

... in the abnormal charge erasing part, applying a positive rectangular waveform voltage to the scan electrodes for a predetermined period of time and then applying a negative rectangular waveform voltage for a shorter period than the predetermined period of time ...

Claim 1 relates to an abnormal charge erasing period. Specifically, a positive rectangular waveform having a wide pulse width is applied to the scan electrodes followed by a negative rectangular waveform having a narrow pulse width (the pulse width of the positive rectangular waveform is greater than the pulse width of the negative rectangular waveform). Support for this feature is at least shown in Fig. 4 and described on page 10 of Applicants' specification. No new matter has been added.

As shown in Fig. 9, Nakamura's initializing period (priming discharge period) includes a positive ascending ramp waveform and a positive (not negative) descending ramp waveform. Nakamura's priming discharge period also, does not include a bipolar rectangular waveform.

In similar art, Kim's initializing period includes a rectangular waveform. Kim's rectangular waveform, however, is not bipolar. Also, Kim's rectangular waveform does not have a positive rectangular waveform having a wider pulse width than a negative rectangular waveform.

In similar art, Homma's initializing period includes a positive ascending ramp waveform and a negative descending ramp waveform. Homma's initializing period, however, does not include a bipolar rectangular waveform. Furthermore, the positive ascending ramp waveform in

Homma does not have a wider pulse width than the pulse width of the negative descending ramp waveform.

Applicants' claim 1 is different than the art of record, because in an abnormal charge erasing period, a positive rectangular waveform is applied to the scan electrodes having a wide pulse width followed by a negative rectangular waveform applied to the scan electrodes having a narrower pulse width (*"in the abnormal charge erasing part, applying a positive rectangular waveform voltage to the scan electrodes for a predetermined period of time and then applying a negative rectangular waveform voltage for a shorter period than the predetermined period of time"*).

As shown in Applicants' Fig. 4, the abnormal charge erasing part of the initialization period includes a positive rectangular waveform having a voltage V_m followed by a negative rectangular waveform having a voltage value V_a . More specifically, the positive rectangular waveform has a wider pulse width than the negative rectangular waveform. Specifically, the application of the positive (wide pulse width) rectangular waveform to the scan electrodes causes a discharge in the discharge cells which have an abnormal wall voltage accumulated therein, and also inverts the polarity of the wall charge on the scan electrodes. The application of the negative (narrower pulse width) rectangular waveform to the scan electrodes causes a self-erasing discharge and erases the wall charge inside the discharge cells. These features are at least found on page 10 of Applicants' specification (*"... to scan electrodes ... after positive voltage V_m smaller than a discharge setting voltage is applied for 5 to 20 μs , negative voltage V_a is applied for a short period up to 3 μs . During these periods, no discharge occurs in the discharge cells ..."*).

Thus, in one example, Applicants' system as recited by claim 1 includes a positive ramp waveform, followed by a negative ramp waveform, followed by a positive rectangular waveform (having a wide pulse width) followed by a negative rectangular waveform (having a narrower pulse width). Accordingly, for the reasons set forth above, claim 1 is patentable over the art of record.

Dependent claims 2, 4 and 5 include all of the features of claim 1 from which they depend. Thus, claims 2, 4 and 5 are also patentable over the art of record for at least the reasons set forth above with respect to claim 1.

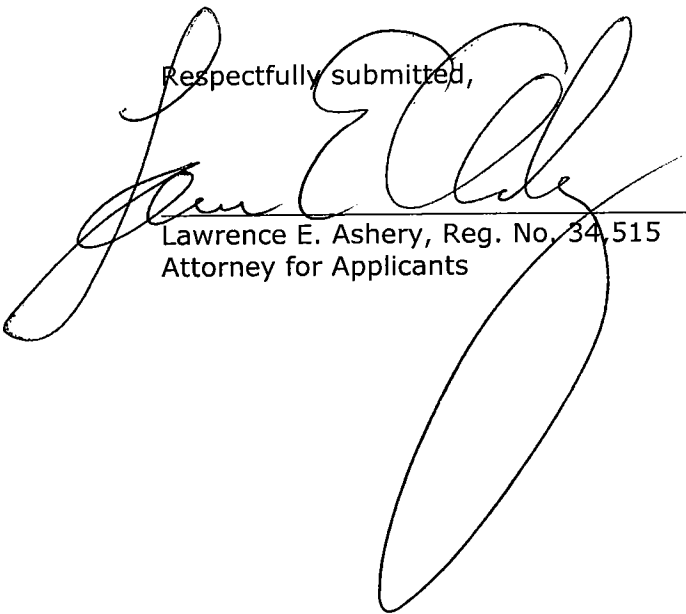
Application No.: 10/566,327
Amendment Dated June 7, 2010
Reply to Office Action of March 16, 2010

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Dependent claim 9 has been added to the application to further clarify the relationship between the pulse widths of the positive and negative rectangular pulses. Support for this feature can be at least found on page 10 of Applicants' specification. No new matter has been added.

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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Dated: June 7, 2010

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